

# ROLL GAP CONTROL

Linear measuring with RLI 4300



Manufacturing of hot steel strip is an industry built on rough processes with high-demanding environments where vibration, dirt and temperatures over 1000°C are common.

The part of the manufacturing process where the hot steel strip is processed from a thickness of some centimeters down to a few millimeters requires extreme forces. This demands robust high-precision measurement components to withstand the rough surroundings and achieve accurate thickness of the hot steel strip.

The continuously increasing demands regarding quality of the product lead to higher requirements of the automation systems, and as a result, higher requirements of the measuring accuracy.

To meet the requirements within the industry, the robust linear measuring solution with RLI 4300 from Leine Linde has been developed. The solution offers up to 50% more accurate gap measurement compared to conventional products on the market.

The measuring solution provides diagnostic data to maintain control of the production process and by that the production quality of the hot steel strip.

The RLI 4300 makes commissioning easy as no calibration is required. This, in combination with the minimal configuration, will save time both at commissioning and at system restart after production stops.

1Vpp

HTL

RS422

PROFIBUS

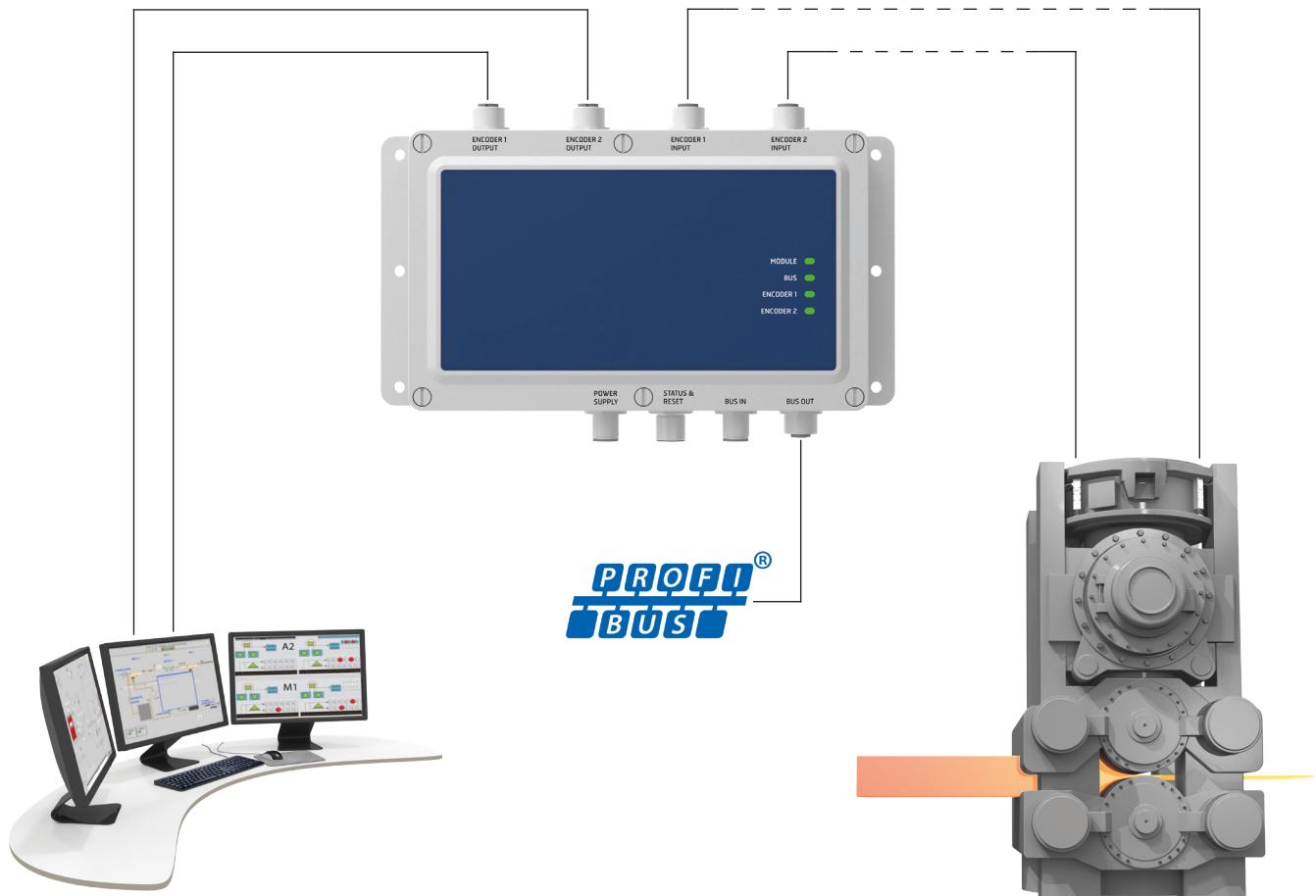
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## Robust linear measuring solution

The solution consists of an ERG gateway combined with robust linear sensors for high accuracy measurement. The gateway converts the sensors' analogue signals to digital incremental signals for connection to a main control system via HTL or RS422. For surveillance of sensor data alarm

and diagnostic functions are provided via digital outputs and inputs and also via LEDs. In addition, the ERG gateway offers PROFIBUS connectivity to enable read-out of the sensor's position data, diagnostic functions and online system configuration.



## Gateway

The gateway has an aluminium enclosure suitable for harsh environments and an ingress protection class IP67 against dust and liquids.

It is equipped with LED indications for status of gateway, sensors and the PROFIBUS communication.

For sensor alarms, reset is set via a digital input and status is checked via a digital output.

The PROFIBUS interface enables configuration and read-out of diagnostic data of the sensors and the gateway like signal amplitude as confidence level. The PROFIBUS interface also provides the absolute position of the sensors, velocity and acceleration.

## Sensor

The robust linear sensors have a high accuracy grade that enables 1,5 µm system accuracy.

Maximum cable length from sensors to gateway is 150 meter.

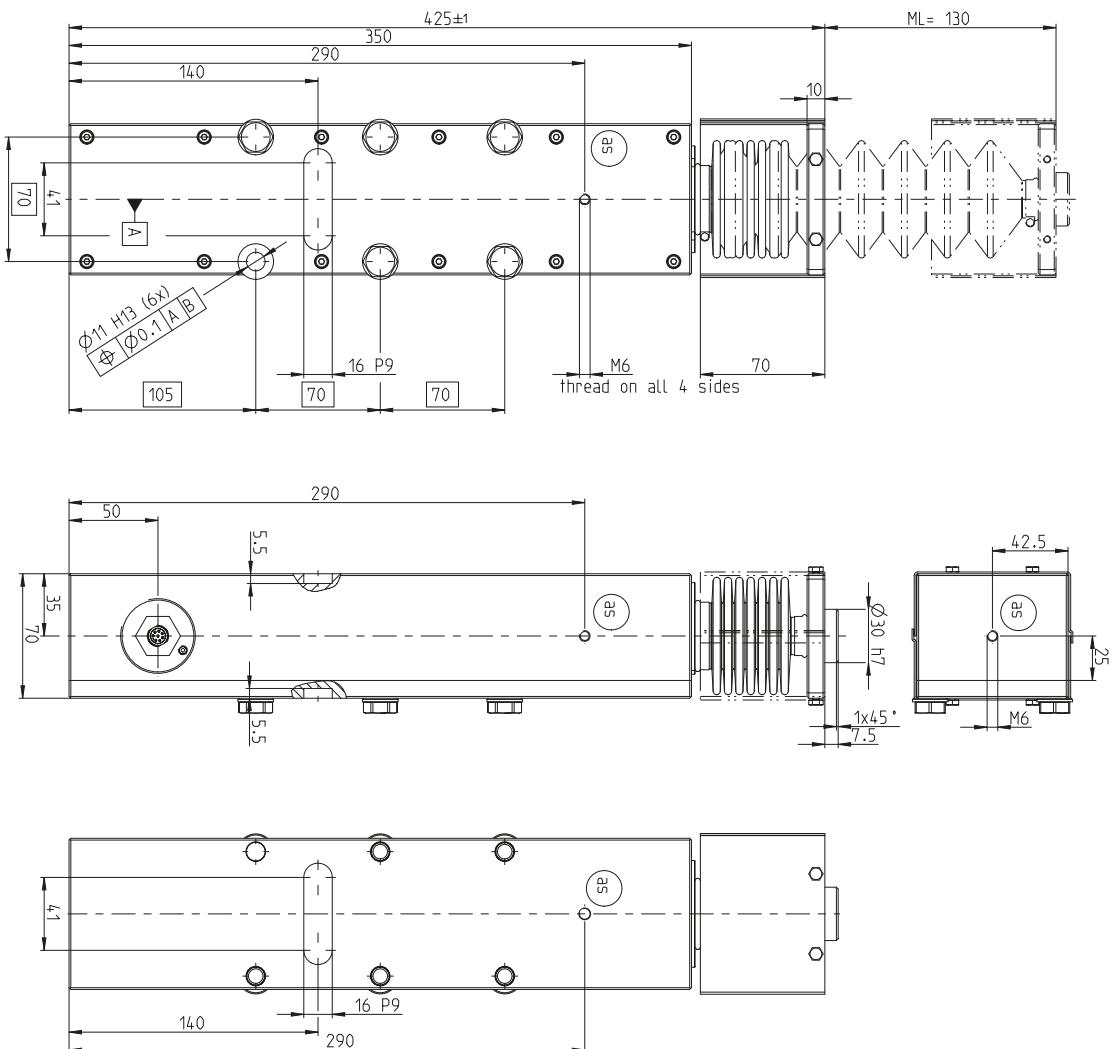
The robust sensors have a stainless steel enclosure and an ingress protection of IP67.

The sensors are available in measurement lengths of 60, 130, 170 or 260 mm.

The linear measuring solution is also available with standard linear sensors for industrial applications.

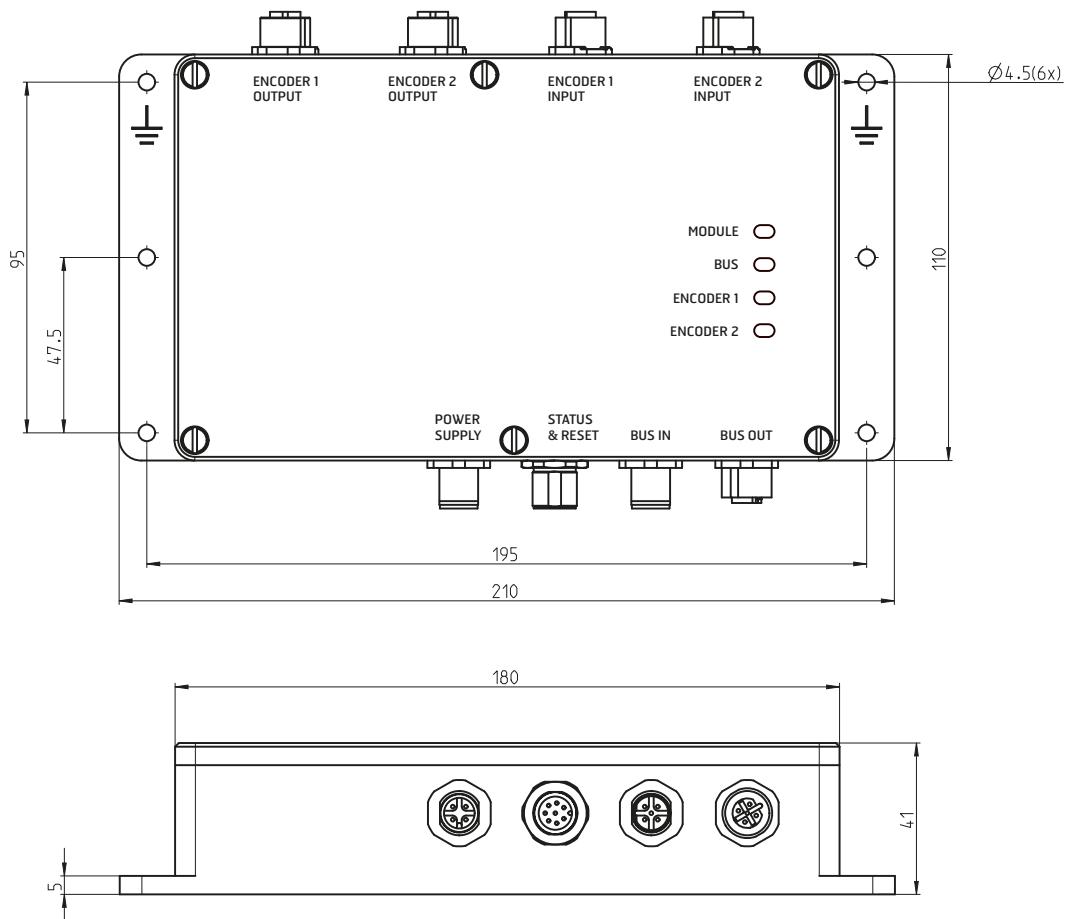


### Dimensions - RLI 4300 - example with a measuring length (ML) 130 mm



The linear measuring solution offers different lengths of scales and cables.  
Please contact Leine Linde for further consultation or datasheet request.

## Dimensions – ERG Gateway



## Code key – RLI 4300

Model      R L I 

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Model

### Scale measuring length

- 01 = 60 mm
- 02 = 130 mm
- 03 = 170 mm
- 04 = 260 mm

### Interface and connections

- 01 = 1 Vpp Flange socket M12, 12-pin